



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Government
Publications

Government
Publications

CAI
IA
-1980
SS2

CAI
IA
-1980
SS2



3 1761 11764540 8

EXECUTIVE SUMMARY

SOCIO-ECONOMIC IMPACTS OF

THE NANISIVIK MINE

ON NORTH BAFFIN REGION COMMUNITIES

Northern Affairs Program





EXECUTIVE SUMMARY

SOCIO-ECONOMIC IMPACTS OF

THE NANISIVIK MINE

ON NORTH BAFFIN REGION COMMUNITIES

Submitted by:

The Baffin Region Inuit Association

Issued under authority of the
Hon. John C. Munro, P.C. M.P.
Minister of Indian and Northern Affairs
Ottawa, 1980

INA Publication No. QS-8266-000-EE-A1

The report, from which this summary is extracted, was prepared for the Government of Canada, the Government of the Northwest Territories and Nanisivik Mines Ltd. The views expressed do not necessarily represent those of the above.

INTRODUCTION

The opening of the Nanisivik Mine at Strathcona Sound on North Baffin Island was preceeded by a period of negotiations between the mining company and the Government of Canada which culminated in a Master Agreement specifying the terms and conditions for the operation of the mine. One of the conditions was that a socio-economic impact study should be made after the mine had been in operation for several years.

The purpose of this research would be to study (1) the effectiveness of the native employment program, itself one of the conditions stipulated in the Master Agreement, and (2) the impacts of mine employment on Inuit workers and their families, particularly those living in the three communities closest to the mine site, Arctic Bay, Pond Inlet, and Igloolik.

In the Spring of 1978 the Baffin Region Inuit Association (B.R.I.A.) felt that it was time to begin implementing this evaluation process. Accordingly B.R.I.A. prepared a proposal for discussion with the Northern Economic Planning Branch of the Department of Indian Affairs and Northern Development outlining the form that a socio-economic impact study of the mine should take. After further detailing of the research design the proposal was also reviewed by representatives of the Government of the Northwest Territories and of the Nanisivik Mine. These discussions led to a meeting between officials of the Baffin Region Inuit Association, the Government of the Northwest Territories, Nanisivik Mines Ltd., and the Department of Indian Affairs and Northern Development of the Government of Canada in Montreal on October 11, 1978 during which agreement was reached on the final details of the study. These details included agreements on: final budget and sharing the cost of the study, establishment of a "Working Group" to monitor and direct the study, review of the Hamlet Councils

in Arctic Bay, Igloolik, and Pond Inlet of relevant portions of a draft report prior to preparation of the final report, allocation of responsibility for deciding on distribution of the final report, and cooperation "to the fullest possible extent" in the conduct of the study. The research began immediately thereafter with Dr. Charles Hobart, a Sociologist at the University of Alberta, appointed principal investigator.

It is obvious that generous measures of wisdom and sensitivity were required of a number of people in facilitating the cooperation of four such diverse organizations in sponsoring and supporting a study such as this. Particular credit must be given to Mr. Manfred Klein, Director of the Northern Economic Planning Branch of the Department of Indian Affairs and Northern Development, and to the spirit of cooperation which prevailed among the members of the "Working Group", which included Mr. Arvin Jelliss of the Department of Indian Affairs and Northern Development, Mr. Mike Moore of the Government of the Northwest Territories, Mr. Jim Marshall of Nanisivik Mines Ltd., and Mr. Brian Penny of the Baffin Region Inuit Association.

EXECUTIVE SUMMARY

This summary is organized into brief sections dealing with the following topics: the purpose of the study, the Nanisivik Mine operation, the sources of data analyzed, the Inuit interviews, the limitations of the study, the profile of the Inuit work force, the Inuit workers' employment record, the wage income from the mine employment, effects perceived by the Inuit on their communities, reactions of workers, wives, and children to the employment experience, effects on more traditional sources of livelihood, conclusions of the study, and recommendations.

1.1 The Purpose of the Study

This study was proposed by the Baffin Region Inuit Association, in accordance with a stipulation in the Master Agreement governing the establishment of the Nanisivik Mine which specified that a socio-economic impact study should be made after the mine had been in operation for a few years to assess its impact on the welfare of the native communities in the area. The purposes of the study were to identify problems experienced by Inuit resulting from operation of the mine, in order to propose practical solutions, to gather information useful in preventing similar problems in future developments and to assist in evaluating the sensitivity of the monitoring process in identifying recurrent mine-related problems which Inuit have experienced. The study was jointly funded by the Government of Canada, the Government of the Northwest Territories, and Nanisivik Mines Ltd.

Specific questions to be answered in the study include the effects of the mine employment on: (1) the Inuit workers and their families, (2) traditional harvesting, (3) consumption of store-bought goods, (4) community health, (5) violence and crime in affected communities, (6) school retention rates and (7) vocational aspirations among young people.

The Nanisivik Mine Operation

The Nanisivik Mine is an underground lead-zinc mine operated by Nanisivik Mines Ltd. on the shores of Strathcona Sound in northwest Baffin Island, about 37 km from Arctic Bay. Construction of the mine was begun in the Spring of 1974, and the operations phase began in October, 1976.

Most of the work force of about 216 people work a rotation schedule. Sixty-two family accommodation units at the minesite are occupied by 23 supervisory and technical staff employees, 24 experienced operators and technical staff and 15 Inuit employees, with their families. The rotation schedule for the Inuit residing other than at Nanisivik or Arctic Bay is successively six weeks at work followed by two weeks leave without pay, followed by seven weeks at work and then two weeks with paid leave. The non-Inuit work for 13 weeks and then have a two week paid leave. Most employees work nine hours a day and work six days a week. The mill and power plant operators work 12 hours a day.

A number of women are employed in clerical, cleaning or catering jobs, almost all of them wives of employees living at the mine site. The small community is well equipped for its size, with a general store, school, day care program, nursing station, library, gymnasium, motion picture projection facility, and swimming pool.

Sources of Data

The main sources of data used were Nanisivik Mines Ltd. records, interviews, Territorial Government records and Government of Canada records.

The Nanisivik Mines Ltd. records provided profile information on all Inuit employed at Nanisivik between January 1, 1975 and December 31, 1978, and data on their dates of employment, occupations, and earnings. Interviews were held with Inuit workers, and with some of their wives and children in seven communities; Arctic Bay, Igloolik, Nanisivik, Pond Inlet, Frobisher Bay, Clyde River and Pangnirtung. Interviews were also held with all of the supervisory personnel on the mine staff, with Co-operative store, Hudson's Bay store, Wildlife Branch personnel and with other informed non-Inuit in Arctic Bay, Igloolik, and Pond Inlet, to obtain further information on the effects of the mine employment on these communities.

Territorial Government records provided much information on Arctic Bay, Igloolik, Pond Inlet, and Nanisivik, including data on liquor shipments, fur and game harvests, morbidity conditions, social assistance payments, crime, and numbers of school leavers, from these communities. Certain special tabulations of data from Nursing Stations in these communities were obtained through the courtesy of Health and Welfare Canada.

The Inuit Interviews

Draft interview schedules were constructed for use with the Inuit workers, their wives, and their children. These were reviewed by the three funding agencies and the Baffin Region Inuit Association, and were modified in accordance with suggestions received from the reviewers. A head interviewer, an Inuk woman with prior interviewing experience, was selected by the Baffin Region Inuit Association and trained by the research consultant when he met with her in December, 1978 in Arctic Bay. She became responsible for training several other interviewers.

Limitations of the Study

For a variety of reasons, including absence of prospective sample members from their home communities when the interviewer was there, and disinclination to be interviewed, a relatively small number of Inuit interviews was obtained. The 85 workers interviewed comprise only 40 percent of all mine workers and former workers in the seven communities where the interviewing was conducted. The 33 wives interviewed comprise only 20 percent of the wives eligible. Only 26 child's interview schedules were obtained, but it is not possible to establish the number eligible for interview. It should be noted that the proportion of eligible workers who were actually interviewed varied widely between the seven communities, with the higher proportions in Pangnirtung (70 percent) and Frobisher Bay (58 percent) and only 13 percent in Igloolik and Nanisivik. The representativeness of the wives in the various communities was equally distorted.

Generally the responses to the questions dealing with attitudes toward Nanisivik employment, and with the perceived consequences of this employment were quite complete. This was much less true in respect to questions dealing with resource harvesting activities, and vocational aspirations. Incomplete or unsatisfactory statistical data were also received in respect to resource harvesting, morbidity, liquor importation, bodily injury, criminal offenses, and school retention.

In view of these problems with the data used in this study, what confidence can be had in its findings? It is our judgement that the data probably have adequate validity for illuminating the central issues of this study. The main justification for this statement lies in the general consistency

between the high turnover statistics for the Inuit mine employees, and the information from the interview schedules concerning their attitudes and reactions to this employment, and the broad congruence found throughout most of the data analyzed.

Profile of the Inuit Work Force

Information is presented on the characteristics of the Northern workers drawn from the company personnel files and from data collected from the interview sample.

Three characteristics of this Inuit work force stand out as distinctive. The first is the very wide ranging area from which they have been recruited, extending from Yellowknife to Grise Fjord. The second is their youthfulness, and the third is the surprisingly high proportion who are single, their age distribution notwithstanding. All of these distinctive characteristics must be taken as reflective of the relative distaste that the Inuit appear to have for the existing conditions of mine employment. It is because of this that it has been necessary to recruit from such a broad area, that such a young work force has been recruited, and most significant of all, that such a high proportion of single workers has been recruited. The distaste is seen explicitly in the very small number of Igloolik men working at the mine in 1978, only 13 -- out of a male work force of about 200.

The Inuit Employment Record

Information is available from company files on the work durations, occupations, job classifications, work performances, absences from work, terminations, and turnover rates of the Inuit employed at the mine between January 1, 1975 and December 31, 1978. The work duration data show that most of the Inuit workers had mine employment for very brief periods. Almost one-quarter (23 percent) failed to complete their first six weeks work period, 45 percent worked no more than two months, and only 14 percent have remained more than one year, as of June, 1979. The data show little indication of increasing work durations in recent years. This suggests that there have been no innovations at the mine site which have increased the attractiveness of working there for Inuit employees. It also suggests that the conditions of mine employment are such as to inhibit the tendencies toward increasing adaptation to mine employment these Inuit workers might otherwise be expected to have achieved. Certainly the experience of Inuit employees of the Rankin Inlet Nickel Mine (Williamson, 1971) and of the Coppermine Inuit working for Gulf Oil (Hobart, 1978) suggest that they achieved very much more in terms of adaptation to work those conditions than is yet apparent among the Inuit workers at Nanisivik.

A tabulation of worker characteristics by duration of employment showed that the long duration workers have a distinctive profile, and though not surprising it is informative. The longest duration workers are more often from Igloodik, Arctic Bay, or the South Baffin communities; are more often employed as apprentices, skilled workers or drivers; have higher job classifications; are most often aged 31 to 40 years; are married, and have no less than three, but no more than five children. Predictably,

they have high performance ratings, particularly on "ability" and "production". The workers having the shortest durations of employment are most often those having contrasting characteristics.

Information on the occupations at which the Inuit have been employed shows that while a high proportion of them have been labourers, they have been assigned to no fewer than 46 occupational categories, and 18 have worked as skilled tradesmen or in other highly skilled positions. In terms of the 14 step job classification scheme used at the mine 11 persons achieved level 11 classifications and three achieved level 13 classifications. Only 13 northerners received promotions in their job classifications, but this is primarily reflective of the very short periods that most of them have worked at the mine.

The performance ratings of these workers by their supervisors were generally very satisfactory, over two-thirds receiving "excellent" or "good" ratings for production, ability, and conduct. Only the ratings for "attendance" were slightly lower. Interviews held with the work supervisors in December, 1978 substantiated these high ratings. The mine and maintenance supervisors were particularly lavish in their praise of Inuit workers under their supervision, working underground and in the repair shop respectively.

Data on absences from work were obtained, but little can be inferred from them because of the large proportions of employees who worked no more than two months (45 percent) and thus had little time in which to incur work absences, and the low frequencies involved. The data on reasons for termination show that 85 percent of those terminated quit

of their own volition, 6 percent were laid off, 8 percent quit, and 1 percent retired.

Turnover rates were calculated using data supplied by the mining company. When a variety of more marginal employees are excluded from consideration, including summer student workers, construction employees, part-time employees, catering staff, and transfers to and from the technical staff, the turnover rate for the northern male regular (i.e., non-supervisory and non-technical) staff was found to be 106 percent, and for southern male regular staff was found to be 63 percent.

These data demonstrate clearly that the Inuit workers are able to perform many jobs at the mine, and that they are able to perform them effectively. Their turnover rate is currently substantially higher than that of the southern workers. On the basis of these findings, it seems apparent that the mine could be effectively operated with a larger proportion of Inuit workers. This should be an attractive prospect to the mine management if ways could be found to reduce the Inuit turnover rate. We believe that it should be possible to accomplish a repetition of the record established by the Rankin Inlet mine 20 years ago during 1958-1961 in operating an underground mine with a high proportion of Inuit workers. It must be noted that these Inuit were far less well educated and less sophisticated than Inuit are today.

1.8 Wage Income from the Nanisivik Employment

Information on the effects of the wage income includes the amount of income earned and perceptions of the effects of this increased spending power. The income information was incomplete for 1976, but was quite complete for 1977 and 1978. Inuit earnings totaled \$759,000 in 1977 and \$712,580 in 1978, a decrease of 7 percent. However because there were many fewer Inuit workers in the latter year, their average earnings increased by 32 percent. The largest amounts of wage income, and generally, the highest average earnings per worker, were found in Arctic Bay, Igloolik, and Frobisher Bay. Both the total wages and the average earnings per worker were low in most of the other Northern Baffin communities and the South Baffin communities.

While the wage income of most of the communities was relatively smaller, the total amount of wages paid to Inuit workers in 1978, made a significant contribution to their cash income during that year. But the relative modesty of these earnings is seen in that if, for example, it were possible to fill half of the 216 Nanisivik Mine positions with Inuit employees earning \$25,000 per year on the average, total Inuit earnings would amount to \$2.7 million per year, about 3.8 times the total current Inuit earnings from employment in the mine.

The Inuit who were interviewed, and the Hudson's Bay store managers agreed in emphasizing that large sums from these earnings have been spent on resource harvesting equipment, particularly skidoos and boats. The store managers reported that there have been only slight increases in purchases of furniture and household appliances, and of fresh fruits

and vegetables. The Inuit interviewed felt that the ill effects of the wage income were reflected in alcohol and other drug consumption and gambling.

:

Perceived Effects of the Mine Employment on Communities

The major conclusion from consideration of the variety of data in this section, is that there is a great deal of ambivalence, and some real concern among the people interviewed regarding the way Nanisivik employment is affecting Inuit people. On the positive side of the picture, two-thirds of the respondents say that it would be better for their communities if more residents were working at Nanisivik, but these proportions were smallest among those closest to the mine, Arctic Bay, Igloolik and Pond Inlet. Wives are particularly ambivalent, and many are hostile, toward the mine employment. Responses to other questions show that the people well recognize their need for employment and money. However the current employment pattern is seen by one-third of the respondents as being in conflict with the need to hunt food for the people of the community, a theme that was reflected again in responses to later questions.

Although more people said the employment during the previous two years had been a good thing for their community (37 percent) than had been a bad thing (8 percent) the majority gave neutral or evasive answers, which reflected no enthusiasm for the employment.

The reservations and concerns that people have about the employment is seen most clearly in their answers to the questions asking about the good and the bad effects of the employment for the workers, their wives, their children, their other relatives, young people in the settlement, and older people in the community. It is noteworthy that more negative effects than good effects were mentioned for each of these categories of people, excepting only the first. In several cases the enumeration of ill effects exceeded the good ones by two to one.

The responses to these questions clearly show that Inuit concerns about the mine employment center on separation of the workers from their families; shortages of meat resulting from the absence of hunters from the communities -- affecting not only the workers' families, but also their kinsmen and friends with whom they are accustomed to share their game; and increased liquor and drug abuse and gambling resulting from the increased income.

These data may be instructively compared with similar data collected in Coppermine just one year before the Nanisivik impact interviews were made, in the Winter of 1977-78. Coppermine residents too had then had extensive experience -- five years -- with rotational employment. While this began as seasonal work available from about November to May, for a number of the Coppermine employees it had become permanent, year round employment. In response to the question, "Do you think having this work was a good thing or a bad thing for Coppermine", 76 percent of the sample said they thought it had been a good thing for Coppermine, as compared with the 37 percent who so responded to the near identical question in the present study. Similarly, the same questions concerning good and bad effects of the employment on workers, wives, children, other relatives, young people, and older people in the Coppermine study as were asked in the present study. The Coppermine data show that in the case of each of these groups at least twice as many people mentioned benefits to each group as mentioned ill effects experienced by that group. On the basis of these explicitly comparable data, it is obvious that there is a great deal less satisfaction with the Nanisivik employment among those interviewed than was reflected in the Coppermine study of Gulf rotational employment.

It is important to note that the major difference between the Gulf and the Nanisivik employment programs is that in the former case the rotation schedule involved two weeks at work followed by one week at home, whereas in the latter case it involves six (or seven) weeks at work, followed by two (or more) weeks at home.

Some interesting and relevant inferences may be drawn from the responses to questions dealing with the good and the bad consequences of the increased flow of income into the communities. The first is the evidence of people's awareness of their dependence on such wage income and of the contribution that it makes to sustaining their life style. Thus more than one and a half times as many people mentioned beneficial as compared with socially adverse purchases. The extent of this contribution to maintaining their preferred life style is seen in the many answers given to the question dealing with beneficial consequences, referring to resource harvesting equipment -- skidoos, boats, guns, and other necessities. It is seen also in the relatively infrequent mention of appliances and household furnishings, and particularly of television sets. Most revealing of all, perhaps, is the fact that 72 percent of the people who mentioned the purchase of cars and trucks referred to them in second, rather than in first place, thus clearly indicating their inferior significance.

Thus the data clearly reflect the ambivalence and the lack of enthusiasm that most of the respondents appear to have for the Nanisivik employment, as it is currently organized. At the same time their answers also reflect their awareness of the importance of this source of wage income for their home communities, and the extent to which this income is heavily

used to subsidize the resource harvesting activity which is central to their life style.

Reactions of Workers, Their Wives and Their Children to the Employment Experience

The information on the reactions of the workers and their families to the mine employment experience is derived exclusively from the 144 completed interviews. This information includes their attitudes toward the employment, some of the emotional consequences of the employment for them, their responses to a range of earning employment options, and the kinds of changes in current employment arrangements that they would like to see.

Most of the workers interviewed voiced rather favorable reactions to their Nanisivik employment experience. It is noteworthy that in commenting on what they liked about their jobs more of them mentioned the work activity than the money that they earned. A number also said they liked the job training that they were receiving. They experienced a number of frustrations and dissatisfactions as well, the most important of which was the long separation from their families. Many were also dissatisfied with their foremen. Other complaints included English communication problems, low pay rates, and the food served. The questions relating to experience of discrimination show that almost one-third felt they had been discriminated against by the foreman, but few made such charges against their white co-workers. The complaints of the 27 percent who felt mistreated by the company covered a range of issues, including misunderstandings relating to pay cheques, discrimination perceived, failure to fulfill promises, etc.

The wives were typically less content with the impacts of the Nanisivik employment on their lives than were the men. The reason is that the wives must cope with the problems of running a household and raising their children alone, while the men need only work, their other needs being well met. As a consequence, the wives appear to experience much more ambivalence over the employment option than their husbands. Many of their responses show that these women know their families need wage income. Most of them expressed dislike of the separation from their husbands and of reduced availability of country food.

Like their mothers, the children who were interviewed tended to reflect much ambivalence toward the way that their fathers' Nanisivik employment affected them. While the children appreciated having more money spent on them by their parents, many stated explicitly, and more than once, that they missed their fathers when they were at the mine site.

The interview responses show that most of the people interviewed believe the mine employment causes significant emotional hardships to many of the workers' wives, both in terms of their loneliness caused by the separation, and their worries about what may happen to their husbands while they are away at the mine. Surprisingly, the data show that these perceptions are most widespread among the Arctic Bay and the Nanisivik women.

High proportions of the workers indicated that they are much troubled by the separation from other members of their families and by their inability to play the traditional meat-provider role which results from their Nanisivik

employment. They also report considerable anxiety over what may happen to themselves, their wives, and particularly to their children during their absences. Many said they found their awareness of their wife's and children's lonesomeness haunting, as well.

The interview data strongly suggest that the emotional burdens of the Nanisivik employment are heavier for the wives than they are for their husbands. This is particularly true in respect to their reactions to the separation. The amount of anxiety that they report in respect to the welfare of their husbands, their children and themselves is quite similar to that reported by the workers. Generally they worry more about their husbands than they do about themselves and their children.

As expected, the children's interviews show that they bear some emotional costs of the work imposed absences of their fathers. The indications of these costs would undoubtedly be much higher if such a large proportion of the children -- almost half -- were not from Arctic Bay and Nanisivik where they do not really experience separation from their fathers.

A rather clear pattern of preferences emerged from responses to questions asking what kinds of employment the adult sample members would like. The first choice of a majority of both the workers and the wives is to have a satisfactory job and to have time for hunting and trapping as well, while living in their home community. Most want to live at home with their families, and to "work for money, hunt and trap for food", as several Inuit succinctly put it. The men have a somewhat greater tolerance for rotational employment at the mine, because they know that they can

make more money there than they could be working at home, in most cases. The women have greater tolerance for relocating to Nanisivik, because that seems to many of them the only way to keep their families together. The option to trap full time is only about half as popular with the men interviewed as is rotation work at Nanisivik, because they know that is is not possible to earn enough money to meet expenses simply by trapping. But despite the earnings differentials, a full time job in the home community is almost three times as popular a choice as rotation employment at the mine with the workers.

Despite the strong ties to the home community, the strong demand for full time wage employment is seen in the fact that many men and women said they would want the men to take a job at Nanisivik now, if they could relocate the family to good housing in the community.

Questions about changes the workers would like to see in the employment and working conditions at Nanisivik elicited generally predictable answers: a shorter work period, higher pay, more training, some provision of Inuit food, change the foreman, longer rest periods, more Inuit employees, etc. However the responses to the questions asking sample members to describe their preferred rotation schedules are surprising. Although many respondents complained about the work-imposed separations of workers from their families, when asked to describe the rotation schedule that they would prefer for themselves, about two-thirds of both the men and the women chose the same work period as is now in force. This is more perplexing because virtually all of the respondents know that the current Pan Arctic Oil rotation schedule involves only two weeks at work followed by two weeks at home.

Any attempt to explain these puzzling responses is clearly speculative. We do not believe that they reflect contentment with the existing schedule. Rather we suspect the Inuit choices were heavily influenced by the fact that all non-Inuit employees work for 13 weeks without a break to return home: more than twice as long as the Inuit must work. Moreover they know the mining company maintains that a shorter work period is not feasible. Since they know they already have such a shortened work period, many may have found it unrealistic to request a further significant reduction in the length of the work period, though most have found the long work period so distasteful that they have high turnover rates.

The interview data give strong indication of the interest of the sample members in participating in a consultative process which would permit them to raise questions and discuss their concerns and their grievances with the mine management personnel.

Effects on More Traditional Sources of Livelihood

The information available which is relevant to the effects of the mine employment experience on traditional sources of livelihood includes data on game harvests and adequacy of meat supplies in the homes of the mine workers in the communities of Arctic Bay, Pond Inlet, and Igloolik, on trapping activity of mine workers and of trappers in these three communities, on effects on spring camping and harvesting activity, and on carving and handicraft production. Generally these data show that the mine employment has had some adverse effects in the areas of harvesting activity on the individual workers and their families, but not on the three communities which we have studied as a whole.

The game harvesting information fails to give any indications that this harvesting activity has suffered, in any of the three communities, though there are indications of continuing inadequate supplies of seal meat in Arctic Bay and Pond Inlet which antedate the onset of the mine employment. However there is enough other wild food, particularly seal meat and fish, to more than make up for the shortage of caribou meat. Mine workers and their wives did report reduced ability to hunt, and reduced availability of meat as a result of mine employment. It is believed that these responses reflect occasional brief scarcities of meat, together with a tendency to see the commonplace inadequacy of caribou meat as due to the mine employment, to some extent because of the general tendency to see this employment as disruptive of more traditional activities.

The information on trapping and fur harvesting shows that while the small numbers of mine employees trapped less fur during the winters they were

employed, this did not adversely affect the fur harvests in the three communities under study. On the contrary, the proportions of the total Territorial harvest of the fur species available in these communities which was contributed by these communities was higher during the years since employment at the mine began than it was in the six years before this employment became available.

The interview data show that about half of the respondents believe that the Nanisivik employment has had some adverse effect on spring camping activities, and on the fish harvests which are brought home. However it is noteworthy that over 90 percent have been able to continue their spring camping activities. Our data thus give evidence of considerable persistence in pursuing more traditional life style practices, in the face of obstacles posed by the Nanisivik employment.

The somewhat unsatisfactory information available to us on carving and handicraft production provides no clear indications that Nanisivik Mine employment has adversely affected this production in Arctic Bay, Pond Inlet or Igloolik. The data supplied by the Co-operative stores in these communities exhibit considerable fluctuation, but suggest that the values of carvings and handicrafts produced during the most recent year are not significantly lower than the values produced in 1974. The interview data suggest that the employment has had some effect in reducing production among the workers, but not among their wives.

Adverse Social Effects of the Mine Employment

The analysis of possible adverse social consequences of the Nanisivik Mine employment focused specifically on amounts of social assistance payments, liquor consumption, crime, bodily injury and violence, health and well-being, child neglect, socialization of children, and early school leaving.

Much of the data available are somewhat incomplete. None show clear indications of significant increases in the social problem indicators but some of the information relevant to effects on socialization of children will be of concern to many Inuit.

Information on social welfare payments in Arctic Bay, Pond Inlet and Igloolik show that there is little or no indication of a trend toward increasing values of these payments, relative to total Territorial - wide payment values, in the first two of these communities. However there is indication of increasing payment levels in Igloolik. The trend here toward increasing social assistance payments is understood as a response to rising expectations in the community, induced in part by more liberal definitions of need and increased community affluence resulting from more wage income.

In respect to liquor consumption there were contradictions between the liquor import data and the interview responses, with the former showing no increase in imports, but the latter reporting increased liquor consumption. We may be confident on the basis of the import data that any increase in consumption has been modest, and that there is not a liquor problem in any of these communities.

The crime conviction data for Arctic Bay, Pond Inlet, and Igloolik, give no dependable indications that the availability of mine employment has resulted in significant increases in criminal behavior in any of these three communities. Similarly the Territorial Health records as well as the interview responses contain no reliable evidence showing a consistent increase in bodily injury and violence since the onset of the mine employment, in any of these three communities.

On the basis of the information supplied by the Legal Aid Lawyer in Frobisher Bay, there can be little doubt that the prolonged absences from home of Inuit workers at the mine are having adverse effects on the marriages of some of them, but it is not possible to estimate the proportion of married workers who have experienced these effects.

Both Territorial Health records and interview responses are available relating to the effects of the mine employment on the health and well-being of residents of the three communities under consideration. On the basis of this information there is no basis for suspecting that the mine employment experience has significantly increased the level of morbidity in any of these communities.

The only information on possible increases in child neglect resulting from the Nanisivik employment is found in the responses of the interview sample to a question asking whether they thought that child neglect had increased for this reason. One-quarter said they believed that it had increased. We have no indications of the validity of these perceptions.

The interview responses relevant to impacts of the mine employment on socialization of children suggest that there is an increase in the numbers of children getting into trouble, and that the socialization of some boys into land-living skills is being somewhat neglected, as a result of the lengthy absences of their fathers while working at the mine. While the work-imposed separations discourage some children from wanting for themselves or their future husbands to follow their fathers' examples, yet their responses show that the mine employment has influenced the occupational expectations of some of the children. This might cause concern to some Inuit. However the importance of wage employment is so clear in most Inuit communities that it is impossible to judge how much of this increased interest may be due to the example of the mine employees.

The data on early school leaving obtained from the Territorial Government Department of Education is of uncertain validity because of incomplete recording of movement by students between different communities, possible under-recording of students who have actually dropped out, etc., and is available only since 1975. However on the basis of the only data available to us we must conclude that there is no evidence of increased early school leaving in Arctic Bay, Pond Inlet, or Igloodik since 1975 as a result of the mine employment.

Conclusions of the Study

The final chapter presents the conclusions of this study, and the recommendations which these findings suggest. The conclusions relate to the attitudes of Inuit workers and family members toward the mine employment, and to the effects of this employment on their home settlements. They may be summarized as follows:

1. There is much evidence of the ambivalence of the Inuit workers, former workers and members of their families toward employment at the Nanisivik Mine. Little of this relates to working underground, as only a small proportion of them work there. Rather, for the workers it relates to two basic conflicts that the mine employment precipitates. The long work period which is now required conflicts with their feelings of attachment and concern for absent family members. In the second place they need to earn money, and for many this is a dependable possibility only through mine employment, but this conflicts with their need to hunt for food for their families. Both of these conflicts are greatly exacerbated by the length of the six week work period to which the workers are now committed. The family members experience parallel conflicts as well, of course.
2. A number of other concerns and complaints were identified by smaller numbers of interview respondents which centered most frequently on four areas: perceived unfair treatment by foremen, perceived inequalities in computation of pay cheques, problems experienced by wives in communicating with their husbands who were working at the mine, and complaints by some Inuit workers about the food served in the mine cafeteria.

3. Analysis of the effects of the mine employment on the home communities of the workers was restricted to Arctic Bay, Pond Inlet, and Igloolik, the communities in closest proximity to Nanisivik. Information was presented on the contribution of wage income to total community income, effects of the mine employment on the more traditional sources of livelihood, and on the social consequences of the employment. The contribution of the wage income to the total cash flow of the community can be considered substantial only in the case of Arctic Bay, where the 1978 earnings of \$191,500 were about three times the fur harvest, and about four times the carving and handicrafts earnings in that year. The wages paid to all Inuit workers, amounting to over \$712,000 in 1978 certainly made a significant contribution to their cash income during that year. However the low proportion of the current earnings potential that has yet been realized is seen in the fact that if half of the 216 Nanisivik Mine employees were Inuit earning an average of \$25,000 per year, total Inuit earnings would amount to \$2.7 million per year, 3.8 times the total current Inuit earnings from mine employment.
4. The data available provide no significant indications that the mine employment has adversely affected any of the traditional sources of livelihood in any of the three communities studied. This is true in respect to harvesting wild foods, trapping and hunting fur-bearers, and producing carvings and handicrafts. In fact the data demonstrate that fur harvesting has increased in significance during the Nanisivik employment years.

5. The findings were generally similar in respect to the social costs of the mine employment. The possible costs which we explored included possible increases in social assistance payments, in liquor importation, criminal convictions, personal injuries, marital adjustment, health and physical well-being, child neglect, early school leaving and socialization of children. In respect to all of these areas except for marital adjustment and socialization of children, there was no consistent or creditable evidence of increases in these indicators during the years of mine employment. In some cases, such as liquor importation, the figures appear to have declined somewhat during the employment period. In the remainder there are no indications that the frequency rates have not remained about the same, when allowance is made for random fluctuations of low frequencies.
6. On the basis of the information supplied by the Legal Aid Lawyer in Frobisher Bay, there can be little doubt that the prolonged absences from home of Inuit workers while at the mine are having adverse effects on the marriages of some of them. However it is not possible to estimate the proportion of married Inuit workers who have experienced these effects, because there are no adequately comprehensive data.
7. In respect to socialization of children there do appear to be some base for concern among some Inuit. (a) A number of the mothers reported difficulty in managing their children while their husbands were away. (b) Some people reported that fathers working at the mine spent less time teaching land-living skills to their sons than they normally would have. (c) There is some evidence that sons

of fathers working at the mine may be favourably influenced toward that type of employment.

8. A number of indications emerged from this study suggesting that liaison between Nanisivik Mines Ltd. and the North Baffin Region communities was less than satisfactory. These included complaints by wives of difficulties in contacting their husbands, feelings among workers of unfair treatment by the company and favorable reactions by interview subjects toward the possibility of a Community Advisory Board. These are taken as reflecting a need for better communication channels between the company and the communities in the region, in order to forestall problems that might otherwise grow to serious proportions.

Recommendations

The recommendations arising out of this study are the result of discussions between the principal investigator and representatives of the Baffin Region Inuit Association, and of further discussions between the Baffin Region Inuit Association representatives and the Hamlet Councils of Arctic Bay, Pond Inlet, and Igloolik. They are discussed in detail in Chapter X and may be summarized as follows:

1. The Nanisivik Mining Company should reduce the rotation schedule of North Baffin Region Inuit workers at the mine to two weeks at work, followed by one week of unpaid leave at home with the company continuing to provide return air fare.
2. This option should be available to Clyde River and Grise Fjord workers as well, if the communities are able to maintain work crews large enough for such frequent rotation to be economically feasible.
3. If the financing of such frequent rotation, given a full plane load of workers, is economically impossible for Nanisivik Mines Ltd., the Territorial Government should seriously consider subsidizing the travel costs that would be incurred.
4. Workers from other communities along the Keewatin Coast should be rotated bi-monthly via charter aircraft if this could be done at an acceptable cost. However the Territorial Government should not subsidize the transportation of these workers to and from Nanisivik Mine.

5. Inuit from more distant communities should continue to have the same rotation option which they now do. In addition, they should have first refusal on the housing at Nanisivik built for Inuit workers.
6. A Community Advisory Board should be formed, comprised of two members from the Settlement Councils of the North Baffin Region communities, the Mine Manager or his delegate, and the mine Community Relations Officer. This Board should meet twice a year to discuss the current effects of the mine operation and of mine employment on the communities represented.
7. Two Inuit should be appointed to the Nanisivik Monitoring Committee. These two Inuit should be selected by the Community Advisory Board from among its own members. In the event that organization of the Community Advisory Board is delayed, the two Inuit members of the Monitoring Committee should be the Territorial Council Member representing Igloolik, Pond Inlet, and Hall Beach, and the President of the Baffin Region Inuit Association, or his delegate.
8. Monthly meetings should be held between the Nanisivik Mine management and the Arctic Bay Hamlet Council, in order to facilitate prompt discussion of concerns of Arctic Bay workers and of the community as a whole.
9. All foremen and first line supervisors working with Inuit should undergo an inter-cultural orientation program to sensitize them to key aspects of traditional Inuit culture, Inuit psychology, and distinctive aspects of Inuit communication.

10. A similar course should be organized for all new Inuit employees to help them understand the ways in which southern white expectations, and personality characteristics and communication patterns differ from those of Inuit.
11. Clear channels should be established for dealing with the grievances Inuit may have when they believe they have been unfairly treated by foremen or the company, or had been paid less than their due. These channels should involve a knowledgeable and confident Inuk who would serve as a communication link between the Inuit workers and the mine management.
12. Procedures should exist to investigate charges of prejudice and discrimination on the part of foremen, and where they proved to be valid, appropriate action should be taken to deal with offending foremen.
13. Careful explanation of the procedures followed in calculating pay cheques should be incorporated into the orientation programs for new Inuit workers.
14. The Inuk serving as the Inuit-white communication link (Number 11 above) should be well informed about pay cheque calculation and payroll deductions. He should be authorized to pursue pay cheque queries brought to him by Inuit workers until they have been cleared up and the explanation or resolution communicated back to the worker affected.

15. An auxiliary communication procedure should be established which could be used by wives experiencing difficulties in communicating with their husbands while the latter were working at the mine. This might involve the Baffin Region Inuit Association or other Inuit Regional Association representatives in the home community and an Inuit mine employee in the Personnel or Administration Department, through whom messages could be passed to the Inuk worker by means of a collect call to the contact person in the Personnel Department.
16. Additional housing for Inuit mine staff and their families should be built in Arctic Bay.
17. Effort should be made to establish more explicitly the extent of satisfaction or dissatisfaction among current Inuit employees with the food that is served at Nanisivik.
18. If there is considerable dissatisfaction, the mining company should explore the feasibility of providing Inuit-style food for Inuit workers several times a week. Such an effort would simply be parallel to the efforts currently made, which do not spare expense or effort, to provide southern white workers with food they will enjoy.

